

**ARCHITECTURE FOR LARGE OPTICAL FIBER ARRAY USING  
STANDARD  $1 \times 2$  COUPLERS**

Abstract of the Disclosure

Sensor arrays utilizing standard  $1 \times 2$  couplers reduce the differences in the  
5 returned optical power levels by appropriate selection of the coupling ratios. Preferred  
embodiments are described that comprise 6 distribution fiber lines and 16 return fiber  
lines. One embodiment includes 16 sensor groups in which each sensor group has a  
dedicated return line. In another embodiment, 8 sensor groups are configured so that no  
two adjacent sensors have either a common distribution fiber line or a common return  
10 fiber line.

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